LISTING OF CLAIMS

Claim 1 (cancelled)

Claim 2 (currently amended): A method according to claim ~~1~~ 32 wherein the preheating step heats the basalt to a temperature of 150-900°C.

Claim 3 (currently amended): A method according to claim ~~1~~ 32 wherein the temperature of the glass mass from which the fibers are pulled is t melt +(50 - 250° C), where t melt is the basalt melting temperature.

Claim 4 (original): A method according to claim 3 wherein the preheating step heats the basalt to a temperature of 150 - 900° C .

Claim 5 (currently amended): A method according to claim ~~1~~ 32, wherein the glass mass is stabilized in the feeder at a temperature of 1250 - 1450° C.

Claim 6 (original): A method according to claim 5 wherein the preheating step heats the basalt to a temperature of 150 - 900° C .

Claim 7 (original): A method according to claim 6 wherein the temperature of the glass mass from which the fibers are pulled is t melt +(50 - 250° C), where t melt is the basalt melting temperature.

Claims 8-21 (cancelled)

Claim 22 (currently amended): A method according to claim ~~1~~ 32 further comprising heating the glass mass while in each of said firing space chamber, stabilizing section and feeder, and wherein each of said firing space chamber, stabilizing section and feeder have a heating system.

Claim 23 (previously presented): A method according to claim 22 wherein the glass mass is retained in said stabilizing section at a temperature of t melt + (50 to 250°C) wherein t melt is the basalt melting temperature.

Claim 24 (previously presented): A method according to claim 23 wherein heating in said firing space is carried out to achieve a glass mass temperature of 1450°C ± 50°C, and heating is carried out in said feeder to maintain a glass mass temperature range of 1250-1450 °C.

Claim 25 (previously presented): A method according to claim 22 wherein providing the glass mass to the stabilizing section includes feeding the glass mass to a stabilizing section having a bottom wall surface to glass mass exposed upper surface height that is .4 to .6 times a bottom wall surface of the firing space chamber to the glass mass exposed upper surface height.

Claim 26 (currently amended): A method according to claim ~~1~~ 32 wherein providing the glass mass to the stabilizing section includes feeding the glass mass to a stabilizing

section having a bottom wall surface to glass mass exposed upper surface height that is .4 to .6 times a bottom wall surface of the firing space chamber to the glass mass exposed upper surface height.

Claim 27 (currently amended): A method for producing basalt fibers, comprising the steps of:

preheating basalt;

introducing the preheated basalt onto a bottom wall surface of a firing space chamber of a melting furnace;

heating the basalt in said firing space chamber provided in said furnace to form a glass mass;

providing the glass mass to a stabilizing section of the melting furnace, which stabilizing section defines a ~~separate,~~ second furnace chamber having a bottom wall surface at a higher level than the bottom wall surface of said firing space chamber and with said stabilizing section having an interior that opens out to the firing space chamber, until the glass mass reaches a stabilizing section temperature which is a reduced temperature relative to a heating temperature in said firing space chamber, and then, introducing the glass mass from the stabilizing section into a feeder by passing the glass mass through a feed port extending between an interior surface of said stabilizing section and the feeder and retaining the glass mass in the feeder, and then forming fibers from glass mass derived from said feeder.

Claim 28 (previously presented): A method according to claim 27 wherein providing the glass mass to the stabilizing section includes feeding the glass mass to a stabilizing

section having a bottom wall surface to glass mass exposed upper surface height that is .4 to .6 times a bottom wall surface of the firing space chamber to the glass mass exposed upper surface height.

Claim 29 (previously presented): A method according to claim 27 further comprising heating the glass mass while in each of said firing space chamber, stabilizing section and feeder, and wherein each of said firing space chamber, stabilizing section and feeder have an individual heating system (7).

Claim 30 (currently amended): A method according to claim ~~1~~ 32, wherein the introduced basalt ~~is derived from multiple main types of~~ includes basalt rock compositions selected from the group consisting of a ~~first main type~~ basalt rock composition ~~enriched with~~ having oxides of iron and titanium; a ~~second main type~~ basalt rock composition ~~enriched with~~ having oxides of aluminum and silicon; and a ~~third main type~~ basalt rock composition ~~enriched with~~ having oxides of magnesium, calcium and iron.

Claim 31 (currently amended): A method according to claim 27, wherein the introduced basalt ~~is derived from multiple main types of~~ includes basalt rock compositions selected from the group consisting of a ~~first main type~~ basalt rock composition ~~enriched with~~ having oxides of iron and titanium; a ~~second main type~~ basalt rock composition ~~enriched with~~ having oxides of aluminum and silicon; and a ~~third main type~~ basalt rock composition ~~enriched with~~ having oxides of magnesium, calcium and iron.

Claim 32 (new): A method for producing basalt fibers, comprising the steps of:

preheating basalt;

introducing the preheated basalt into a melting furnace;

heating the basalt in a firing space chamber of said furnace to form a glass mass, with said firing space chamber having a bottom wall surface on which the glass mass is placed;

providing the glass mass to a stabilizing section of the melting furnace, which stabilizing section defines a second furnace chamber having a bottom wall surface on which the glass mass is placed, with the bottom wall surface of said stabilizing section being positioned at a height which is higher than the bottom wall surface of said firing space chamber, and with said stabilizing section having an interior that opens out to the firing space chamber, until the glass mass reaches a fiber manufacturing temperature, and then, introducing the glass mass from the stabilizing section into a feeder by passing the glass mass through a feed port extending between an interior surface of said stabilizing section and the feeder and retaining the glass mass in the feeder to obtain a glass mass having the composition

$$\frac{Al_2O_3 + SiO_2}{CaO + MgO} \geq 3$$

$$\frac{FeO}{Fe_2O_3} \geq 0.5$$

$$\frac{2Al_2O_3 + SiO_2}{2\,Fe_2O_3 + FeO + CaO + MgO + K_2O + Na_2O} > 0.5\text{; and}$$

forming fibers by pulling the glass mass from spinnerets which receive glass from the feeder.